

## Request for Quotation

REF: AE/DD/2012/03

Date: 2<sup>nd</sup> Jan 2012

To  
M/s :

Sub : Quotation for supply of: Double Pulsed PLIF-PIV Laser

Sir / Madam:

With reference to the subject mentioned above, you are invited to submit the quotation in a sealed cover in order to reach us before 14<sup>th</sup> Jan 2012 in the proforma quotation enclosed herewith in the form of hard copy / soft copy for your use.

Technical details/Specifications required for the  
**Technical specifications of double pulsed Laser for PLIF-PIV applications:**

Pulse energy:  $\geq 2 \times 80 \text{mj}$  per pulse at 266nm wavelength and corresponding energy at 532 nm.

Output wavelengths: 266nm and 532nm outputs from both pulses (Either simultaneous or switching)

Beam Profile: Super Gaussian or top-hat beam profile.

Wavelength switching mechanism: Change among the two wavelengths should be automatic with self-alignment. If not, please specify the mechanism of output selection in details. It must be alignment free.

Cooling system with necessary Water Chiller, laser controller, articulated arm/s and light sheet optics should be included.

The Laser should have greater efficiency and reliability, high beam stability. The laser head should be dust-proof and **moisture-proof** to suit the conditions of Northern plains of India.

Beam diameter:  $< 10 \text{mm}$

Repetition rate: Adjustable 1-10 Hz or higher

Pulse width: in the range of 3-10ns for both 532nm and 266nm

Time between the pulses: Adjustable, Minimum:  $1 \mu\text{s}$  or less and Maximum: 50ms or more

Beam divergence:  $\leq 1 \text{ mrad}$

Timing jitter :  $\leq 2 \text{ns}$

Energy Stability (RMS):  $\leq 3\% @ 532 \text{ nm}$ ,  $\leq 8\% @ 266 \text{nm}$

Input Voltage: 220/230 V, 50Hz

Articulated arm and Light sheet optics: 1. Single articulated arm and light sheet optics compatible with both wavelengths OR 2. Separate ones for each wavelength, with high transmission efficiency. The articulated arm should be minimum of 1.8m long with alignment free movements. The Light sheet optics must have a focusing distance between 0.5m to 2m. The sheet thickness should be adjustable

to thin sheets (<1.2mm) for 2-D measurements to relatively thick sheet (between 3-5mm) for 3-D measurements.

Include Goggles Minimum 2nos (to be used for both 266 & 532 in the maximum operating power range) or 2nos for each wave lengths.

The complete system should include all necessary cables (Power cables at least for 10m) and any other cable at least for 6m length. All tubes for cooling water circulation must be at least 10m in length.

Applications: In the laser output both the beams must be overlapped perfectly to carry out meaningful measurements in double pulsed mode for PLIF&PIV. Must include external trigger options for synchronization with other devices such as Camera with delay in the range of < 1 $\mu$ s to 100ms.

All date of warranty of non-linear optics/crystals, flash lamps etc must start from the date of completion of installation and should be for minimum of 6months or more.

All date of warranty for other items must be for 1 Yrs or more from the date of completion of the installation.

The soft copy of the model quotation can also be downloaded from our website placed at the following link:

[http://web.iitk.ac.in/dord/rndforms/project\\_purchases.php](http://web.iitk.ac.in/dord/rndforms/project_purchases.php)

Best regards,  
Sincerely,

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